

(PCT Article 36 and Rule 70)

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/JP	Authorized officer
Facsimile No.	Telephone No.

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2005/003053

Box No. I

Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of:
- ☐ international search (Rule 12.3 and 23.1(b))
- ☐ publication of the international application (Rule 12.4)
- ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the **elements** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1-7 \_\_\_\_\_ as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ the claims:
- nos. 3-8, 10 \_\_\_\_\_ as originally filed/furnished
- nos.\* \_\_\_\_\_ as amended (together with any statement) under Article 19
- nos.\* 2, 9, 14 \_\_\_\_\_ received by this Authority on 10.01.2006
- nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ the drawings:
- sheets \_\_\_\_\_ as originally filed/furnished
- sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☒ The amendments have resulted in the cancellation of:
- ☐ the description, pages \_\_\_\_\_
- ☒ the claims, nos. 1, 11-13 \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

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PCT/JP2005/003053

Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement		
1. Statement			
Novelty (N)	Claims	2-10, 14	YES
	Claims		NO
Inventive step (IS)	Claims	2-10, 14	YES
	Claims		NO
Industrial applicability (IA)	Claims	2-10, 14	YES
	Claims		NO
2. Citations and explanations (Rule 70.7)			
<p>Document 1: Akihiro OHKUBO et al., "A new strategy for the synthesis of oligodeoxynucleotides directed towards perfect O-selective internucleotidic bond formation without base protection," Tetrahedron Letters, 2004, Vol. 45, No. 2, pages 363 to 366</p> <p>Document 2: Wojciech DABKOWSKI et al., "2,4-Dinitrophenol: a novel activating reagent in nucleotide synthesis via the phosphoramidite route. Design of new effective phosphitylating reagents," Tetrahedron Letters, 2000, Vol. 41, No. 39, pages 7535 to 7539</p> <p>Document 3: JP 2003-2895 A (President of the Tokyo Institute of Technology), 08 January 2003</p> <p>Document 4: JP 11-80185 A (Japan Science and Technology Corp.), 26 March 1999</p> <p>Document 5: JP 2003-28871 A (Fuji Photo Film Co., Ltd.), 29 January 2003</p> <p>Document 6: JP 62-51695 A (Yuki Gosei Kogyo Co., Ltd.), 06 March 1987</p>			

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Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
	<p>Claims 2 to 10 and 14</p> <p>Documents 1 to 6 do not disclose or suggest the feature wherein a mixture that comprises an alcohol-type compound and an acid catalyst is used during the synthesis of nucleic acid oligomers by means of a phosphoramidite technique.</p> <p>On the other hand, the inventions set forth in claims 2 to 10 and 14 exhibit an advantageous effect in that side reactions are suppressed and the condensation efficiency is increased as a result of using a mixture that comprises an alcohol-type compound and an acid catalyst; furthermore, it would not have been easy for a person skilled in the art to predict the effects in question based on the disclosures in documents 1 to 6.</p> <p>Such being the case, the inventions set forth in claims 2 to 10 and 14 are novel and involve an inventive step in relation to the inventions disclosed in documents 1 to 6.</p>

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## Supplemental Box Relating to Sequence Listing

## Continuation of Box No. I, item 2:

1. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this report was established on the basis of:
- a. type of material
    - ☒ a sequence listing
    - ☐ table(s) related to the sequence listing
  - b. format of material
    - ☐ in written format
    - ☒ in computer readable form
  - c. time of filing/furnishing
    - ☒ contained in the international application as filed
    - ☐ filed together with the international application in computer readable form
    - ☐ furnished subsequently to this Authority for the purposes of search and/or examination
    - ☐ received by this Authority as an amendment\* on \_\_\_\_\_
2. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
3. Additional comments:

\* If item 4 in Box No. I applies, the listing and/or table(s) related thereto, which form part of the basis of the report, may be marked "superseded."